

March 14, 1988

CD-88-04 (LD)

Dear Manufacturer:

SUBJECT: Alternative Method to Calculate Average Exchange Rates

Enclosed is a copy of our correspondence with General Motors (GM) in which we approved their request for an alternative method to calculate exchange rates for the purposes of determining the domestic content of carlines which is required to calculate separate manufacturer average fuel economies for domestic and non-domestic vehicles (Ref. 40 CFR 600.510-86 and 40 CFR 600.512-86).

EPA has the authority to approve alternative methodologies to calculate the average exchange rate for foreign currency (Ref. 40 CFR 600.511-80(b)(1)) when it is "appropriate and necessary." GM's petition is based, in part, on the contention that the use of the Federal Reserve Bank exchange rate three-year averages may not sufficiently dampen cyclical variations that occur over a longer period than three years. This makes it difficult for manufacturers to make long term commitments that depend heavily on international exchange rates. GM proposed using the Purchasing Power Parity (PPP) rate as published by the intergovernmental Organization for Economic Cooperation and Development (OECD) as an alternative method of determining the average exchange rate.

The purpose of this letter is to inform all manufacturers of our determination and to make this optional method of determining exchange rates available to everybody. It is important to note that our approval to use this alternative method is conditioned upon the consistent use of this procedure for all imported components for all of a manufacturer's carlines.

Sincerely,

Robert E. Maxwell, Director
Certification Division
Office of Mobile Sources

Enclosures

7686b

Environmental Activities Staff
General Motors Corporation
General Motors Technical Center
30400 Mound Road
Warren, Michigan 48090-9015

February 5, 1988

Mr. R. E. Maxwell, Director
Certification Division
Mobile Source Air Pollution Control
U. S. Environmental Protection Agency
2565 Plymouth Road
Ann Arbor, MI 48105

Dear Mr. Maxwell:

General Motors (GM) hereby petitions the Environmental Protection Agency to allow an alternative exchange rate calculation for the determination of domestic content, as provided under CFC 40 Section 600.511.80. GM proposes the alternative rate calculation be based upon the Purchasing Power Parity (PPP) rate as published annually by the intergovernmental Organization for Economic Cooperation and Development (OECD) in Paris.

The PPP rate is that equilibrium or structural exchange rate at which an average basket of commodities (through not necessarily any single commodity such as motor vehicles) will cost the same across countries. If trade between two countries were to remain in balance, the PPP exchange rate would evolve in line with the inflation differential between the two countries, thus holding trade in equilibrium with a steady real exchange rate.

The Petition is a result of the disruptive effect of radically varying exchange rates on orderly planning and implementation of both current and future production...a situation not anticipated in 1976 when the domestic content regulation was promulgated. For example, while the yen/dollar exchange rate continually fluctuates up and down over time, the recent plunge of the U.S. dollar from about 246 yen/dollar to a nominal 125 yen/dollar tends to distort the results of the existing calculation. This fall in the dollar's value has increased the apparent foreign content when in actuality no change in import content level has occurred.

BACKGROUND

When the floating exchange-rate system was instituted in the early 1970's, it was not anticipated that nominal exchange rates would deviate for

prolonged periods from the level indicated by Purchasing Power Parity (PPP) rates.

However, as experience with the current exchange-rate regime mounted, and especially since 1980, it became clear that deviations from PPP rates can be substantial and persist for long periods. Notwithstanding, the economic forces governing PPP should eventually predominate. It is also

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now recognized that exchange markets are very sensitive to government policy actions, as evidenced by the sharp fall of the dollar following the Group of Five (the five major western industrialized governments, known as G5) pronouncements from the Plaza Hotel Accord of September, 1985.

Chart I (below) shows actual and forecast Japanese yen/U.S. dollar exchange rates published within GM in January, 1987, along with a superimposed structural (or equilibrium) rate generated by GM. The GM equilibrium rate approximates the mean of known published values. The basic cyclical behavior of the rate relative to the Purchasing Power Parity rate is clear. A 16 quarter period of undervaluation lasting from 1977 to 1981 followed by a 19 quarter period of overvaluation lasting from 1981 through most of 1985. Though the historical base of floating exchange rates is relatively limited, dating back only to the 1970's, GM projections through the year 2000 expect a continuation of periodic cycles. It is important to note that both the actual and the structural rates have a downward slope, reflecting the lower expected inflation rate in Japan than in the U.S.

CHART I

File CD8804_1.PCX

Similar tendencies can be seen with the world's other major currencies. CHART II shows West German Deutsche Mark/U.S. dollar exchange rates which exhibit a similar cycle lasting 41 quarters. Again the structural or equilibrium rate has a downward slope reflecting lower expected inflation in West Germany than in the U.S.

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CHART II

File CD8804_2.PCX

PROBLEM DEFINITION

It is this cyclical nature of market exchange rates, as published by the Federal Reserve Bank of New York, operating above and below the equilibrium or structural rate which GM contends distorts the actual value of a vehicle's import content. This distortion is disruptive in both the planning of normal business activity and the planning for achievement of future CAFE standards.

At a point in time when the business commitment to produce a new motor vehicle is made, initial production is typically three or more years in the future. EPA currently requires that the exchange rate applicable to calculating domestic content of these vehicles be determined at that future time, using a three year average of exchange rates for a period commencing four years prior to the calculation. Thus, at the time of the business decision, no more than one-third of the exchange rate history to be used in determining domestic content is known. Even three years (12 quarters) is highly unlikely to reflect the intrinsic equilibrium exchange rates and may coincide with the most aberrant currency behavior of a cycle, with consequent exchange rate distortions. The additional business risk imposed by EPA methodology upon a potential enterprise which has as a major goal attaining at least 75 percent domestic content could be critical, given the other exigent risks. Although many exchange rate risks can be hedged, this one cannot.

EXAMPLE

As an example of the discrepancy created in apparent percent of import content between the Federal Reserve Bank and the PPP exchange rate, GM offers the following comparison;

A hypothetical 1987 model carline with an average dealer net price of \$12,000 having a Japanese transmission which represents a total import content of 10%, continues to utilize the identical components through the 1990 model year. By the 1990 model year, however, solely because of the divergence of the two exchange rates, that same transmission would then represent an import content of 10.7% for the published PPP rate and 14.5% for the market rate published by the Federal Reserve Bank (Table I).

TABLE I

Model Year	Exchange Rate @		Apparent Import Content	
	Fed. Reserve	PPP	Fed. Reserve	PPP
1987	\$243 yen/\$	231 yen/\$	10%	10%
1988		228 226	10.7	10.2

1990

168 * 217 **

14.5 10.7

@ -The exchange rates shown are the average 12 quarter rates published by the Federal Reserve, as specified in the EPA regulations, and the average 3 year PPP rates as proposed by GM, for each of the given model years.

* -Assumes 150 yen/dollar for near term future quarters

** -Assumes rate change inverse to U.S. inflation rate for calendar year 1986-87.

This hypothetical situation demonstrates the effect of currency fluctuations on apparent foreign content. It is the uncertainty of these fluctuations that causes GM to be concerned about implementing future programs. It is apparent that the overall financial attractiveness of these future North American products, that have some foreign content, may be significantly altered by such fluctuations in the market value of the U.S. dollar. The final effect could be that such programs would not be economically feasible and would eventually result in the loss of prospective employment in the U.S.

To reduce the disruptive effect of these exchange-rate fluctuations on domestic manufacturers' long-term plans and thereby increase the security of their investments and the stability of the increased U.S. employment resulting from those plans, GM recommends that an alternative exchange rate formula be made available. CFR 40 Section 600.511.80 provides specifically for approval of such alternative exchange rates.

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GM RECOMMENDATION

GM recommends the use of Purchasing Power Parity (i.e., equilibrium) as a fair evaluation of exchange rates that would more accurately describe a vehicle's domestic content. PPP rate usage would significantly reduce the uncertainties created by fluctuating market rates.

While the U.S. Bureau of Labor Statistics (BLS) issues a version of PPP rates, upon request, they are currently classified as "unpublished." Several private efforts directed toward the establishment of PPP rates are also conducted by Morgan Guaranty Bank, Chase Econometrics, Wharton Econometrics (now merged with Chase), and various academics such as Professors Ronald McKinnon of Stanford University and Lawrence Kraus of the University of California at San Diego.

The source of the PPP exchange rates recommended by GM are those internationally recognized and published annually in NATIONAL ACCOUNTS VOLUME I by the Department of Economics and Statistics of the Organization for Economic Cooperation and Development.

Table II shows for comparison the market yen/dollar exchange rates as published by the Federal Reserve Bank of New York, and the yen/dollar PPP rates published by both the U.S. BLS and the OECD.

TABLE II

	1978	1979	1980	1981	1982	1983	1984	1985	1986
1987									
Federal N/A Reserve	208.4	218.2	225.7	220.1	249.1	237.4	237.3	238.5	167.48
OECD N/A	287	272	258	247	237	231	225	222	N/A
BLS N/A	293.5	278.0	264.5	249.0	238.3	231.2	225.6	222.0	222.2

Specifically, GM requests that a manufacturer be allowed to change from the usage of the Federal Reserve Bank to the OECD exchange rates for calculation of the valuation of all components imported in a foreign currency where those rates are available in that currency. If PPP rates are not available in that currency, the manufacturer would necessarily use the Federal Reserve Bank exchange rates. Further, since OECD rates are generated yearly and approximately 18 months after a year ends, rather than quarterly, the calculation should include the average PPP rate for three years (equivalent to 12 quarters) prior to and including the year ending one year prior to the year in which the manufacturer submits the calculation of the preliminary average for such model year.

GM also requests that should, at some future date, the PPP rate prove to be less representative than is currently believed, that manufacturer should be allowed to return to the twelve quarter Federal Reserve Bank

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exchange rates or to another rate that is mutually acceptable at that time.

It is significant that on September 30, 1987, U.S. Treasury Secretary, James Baker suggested to the World Bank and International Monetary Fund that major industrial nations should manage monetary policy in relationship to such equilibrium exchange rates. Mr. Baker's proposal provides tacit recognition of the destabilizing problems engendered by large exchange rate fluctuations (Attachment I). GM agrees with Mr. Baker's assessment and we consider the PPP to be a fair evaluation of international exchange rates.

Please do not hesitate to contact either me or my staff if you should have any other questions regarding this subject.

Sincerely,

S. A. Leonard, Director
Automotive Emission Control

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

ANN ARBOR. MICHIGAN 48105

OFFICE OF
AIR AND RADIATION

February 24, 1988

Mr. S. A. Leonard, Director
Automotive Emission Control
Environmental Activities Staff
General Motors Corporation
General Motors Technical Center
Warren, Michigan 48090-9015

Dear Mr. Leonard:

This is in response to your letter of February 5, 1988 petitioning for use of an alternative exchange rate calculation when determining domestic content under 40 CFR 600, subpart F - "Procedures for Determining Manufacturer's Average Fuel Economy." Pursuant to our authority under §600.511-80(b)(1) for approving a petition from a manufacturer wanting to use a different exchange rate, we are granting your request to use the Purchasing Power Parity (PPP) rate as published annually by the intergovernmental Organization for Economic Cooperation and Development (OECD).

GM has argued the use of the Federal Reserve Bank exchange

rates, as specified by the regulations, can create some long range planning problems due to cyclical variations. The regulations attempt to minimize this effect by averaging over three years. However, GM has argued this still does not sufficiently dampen the fluctuations which cycle over longer periods of time and has recommended the PPP rate as more stable alternative. As long as the PPP method is consistently applied (i.e., the manufacturer does not pick and choose between methods so as to use the most favorable exchange rate at a given time), this method appears to represent a fair evaluation of exchange rates.

We are approving your request subject to the conditions as recommended in your letter:

Specifically, GM requests that a manufacturer be allowed to change from the usage of the Federal Reserve Bank to the OECD exchange rates for calculation of the valuation of all components imported in a foreign currency where those rates are available in that currency. If PPP rates are not available in

that currency, the manufacturer would necessarily use the Federal Reserve Bank exchange rates. Further, since OECD rates are generated yearly and approximately 18 months after a year ends, rather than quarterly, the calculation should include the average PPP rate for the three years (equivalent to 12 quarters) prior to and including the year ending one year prior to the year in which the manufacturer submits the calculation of the preliminary average for such model year.

Our approval is also conditioned upon the consistent use of this procedure for all imported components of all GM carlines.

GM has requested that "should, at some future date, the PPP rate prove to be less representative than is currently believed, that (the) manufacturer should be allowed to return to the twelve quarter Federal Reserve Bank exchange rate or to another rate that is mutually acceptable at that time." We believe it would be inappropriate for GM to revert to the old method simply because it cycled back and became the more favorable rate. In fact, GM's analysis predicts such a cycle should occur in the coming years. Given we cannot foresee what future conditions might cause the PPP method to be considered "less representative" in the future, we are not specifying conditions in advance under which GM should be allowed to return to the old method. To keep things simple, we will allow GM to determine if it has become "less representative." GM may revert to the

old method if it determines the PPP rate is less representative by providing a written rationale for its conclusion. To prevent a frivolous movement back and forth between methods, we will only allow GM to change once. That is, once GM has determined the PPP method has become less representative, we will not let GM return to its use.

Prior to implementing the method on a full scale basis, we request that GM submit a set of sample calculations to confirm no disagreements exist on the details of the procedures to be used. The sample should use actual OECD PPP statistics (with all references documented, including specific page, table or figure references) and should be applied to an actual carline case. Once these details have been confirmed, GM may convert to the use of the PPP method for any model year provided that it is applied across GM's full product line and for the full model year.

Sincerely,

Robert E. Maxwell, Director
Certification Division
Office of Mobile Sources